

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
31 March 2005 (31.03.2005)

PCT

(10) International Publication Number
WO 2005/029184 A3

(51) International Patent Classification⁷: G03F 7/023 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number: PCT/JP2004/012235

(22) International Filing Date: 19 August 2004 (19.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 2003-325953 18 September 2003 (18.09.2003) US

(71) Applicant (for all designated States except US): TOKYO OHKA KOGYO CO., LTD. [JP/JP]; 150, Nakamaruko, Nakahara-ku, Kawasaki-shi, Kanagawa 211-0012 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MASUDA, Yasuo [JP/JP]; c/o Tokyo Ohka Lpgyo Co., Ltd., 150, Nakamaruko, Nakahara-ku, Kawasaki-shi, Kanagawa, 211-0012 (JP). OKUI, Toshiki [JP/JP]; c/o Tokyo Ohka Kogyo Co., Ltd., 150, Nakamaruko, Nakahara-ku, Kawasaki-shi, Kanagawa, 211-0012 (JP).

(74) Agents: TANAI, Sumio et al.; 2-3-1, Yaesu, Chuo-ku, Tokyo 104-8453 (JP).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 2 June 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/029184 A3

(54) Title: POSITIVE PHOTORESIST COMPOSITION AND RESIST PATTERN FORMATION

(57) Abstract: A means for increasing development velocity of a positive photoresist composition is provided which contains a photosensitive novolak resin formed by replacing some hydrogen atoms within those of all phenolic hydroxyl groups of alkali soluble novolak resin by 1,2-naphthoquinonediazide sulfonyl group. This means is positive photoresist composition and a formation method of a resist pattern using the composition which contains (A) a photosensitive novolak resin formed by replacing some hydrogen atoms within those of all phenolic hydroxyl groups of alkali soluble novolak resin by 1,2-naphthoquinonediazide sulfonyl group, which is dissolved in (B) propylene glycol alkyl ether acetate.